Corporate Office
9 East Stow Road • Mariton, New Jersey 08053-3159
TEL (856) 985-8800 • FAX (856) 985-9200

SITE INVESTIGATION/REMEDIAL ACTION REPORT

of:

BARRY BRONZE BEARING COMPANY, INC.

Block 604, Lot 1 2204 South 7th Street Camden, Camden County, New Jersey ISRA Case No. E97573

for:

BARRY BRONZE BEARING COMPANY, INC.

2204 South 7th Street
PO Box 1506
Camden, New Jersey 08104-1506

Attention: Mr. Paul J. DeCoursey, Jr. Vice President

TTI Project No. 99-408

August 10, 2000

Prepared by:

R. Timothy Popp \mathcal{V}

Sr. Environmental Project Manager

NJDEP License No. 0015213

Reviewed by:

Craig P. Durand
Sr. Project Manager

NJDEP License No. 009985

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1.0 BACKGROUND

Barry Bronze Bearing Company, Inc. (Barry Bronze) ceased operations in August, 1997 at their facility located at 2204 South 7th Street in Camden, Camden County, New Jersey. The cessation of operations triggered the Industrial Site Recovery Act (ISRA) since the Barry Bronze operations conducted at the subject site are applicable to the provisions of ISRA. As such, Barry Bronze was required to complete a Preliminary Assessment (PA) of their property in accordance with N.J.A.C. 7:26E - Technical Requirements for Site Remediation (7:26E). TTI Environmental, Inc. (TTI) was commissioned by Barry Bronze to conduct the PA of the Barry Bronze property. The PA was submitted to Mr. Ronald J. Wienckoski, Jr. of the New Jersey Department of Environmental Protection (NJDEP) on March 11, 1998. Based on the areas of concern identified in the PA, TTI conducted a site investigation that included the investigation of eight (8) areas of concern. The Site Investigation (SI) Report was submitted to Mr. Wienckoski on February 4, 1999. Following the submission of the SI, a site inspection was conducted by Ms. Grace Jacobs of the NJDEP on April 19, 1999. On May 7, 1999, TTI received a response from the NJDEP on the site inspection results. On July 6, 1999, TTI submitted a letter response to Ms. Jacobs site inspection report.

The NJDEP inspection letter identified five (5) deficiencies and 14 actions required on the part of the responsible party. TTI was commissioned to perform a Site Investigation (SI) and Remedial Action (RA) in order to address the areas identified in the NJDEP inspection letter. The SI consisted of the collection of various samples with subsequent submission of the samples for laboratory analysis. The RA consisted of the remediation of impacted soils followed by post excavation soil sample collection and laboratory analysis.

The purpose of this SI/RA Report is to summarize activities conducted in association with the investigation/remediation conducted at the site as well as to present recommended courses of action to address specific areas.

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2.0 SITE INFORMATION

2.1 Site Location

The subject site is located at 2204 South 7th Street in Camden, Camden County, New Jersey. The site was listed in the Camden City Tax Assessor's Office as Block 604, Lot 1.

The general location of the site is depicted in Figure 1.0 - Regional Site Location Map (United States Department of the Interior Geological Survey, 7.5 Minute Series Topographic Map, Camden, New Jersey Quadrangle). A site diagram depicting the subject property and various features is included as Figure 2.0.

2.2 Physical Characteristics

The subject site encompasses one (1) parcel that is located at the southeast corner of 7th Street and Bulson Street, Block 604, Lot 1. The subject site is located in an area of mixed residential/commercial/industrial use. Access to the subject property is gained via 7th Street and a bay door is located along Bulson Street. Bulson Street is an unimproved roadway.

The subject property is improved with one (1) building structure that occupies approximately 65% of the subject property and totals approximately one (1) acre. The subject building is one (1) story constructed of concrete block and steel with a concrete foundation.

The building footprint occupies approximately 19,000 square feet of land area. An asphalt parking lot extends from the western section of the property to the south/southeast portion of the property. The northern portion of the property is occupied by the building structure and a bag house. The northern property line abuts an abandoned rail road line to the north along Bulson Street.

2.3 Current/Former Operations

No active operations are being conducted at the subject site and the building is currently vacant. Barry Bronze's former operations consisted of the casting of bronze metal into various molds (see attachment - Item 2B of the Preliminary Assessment).

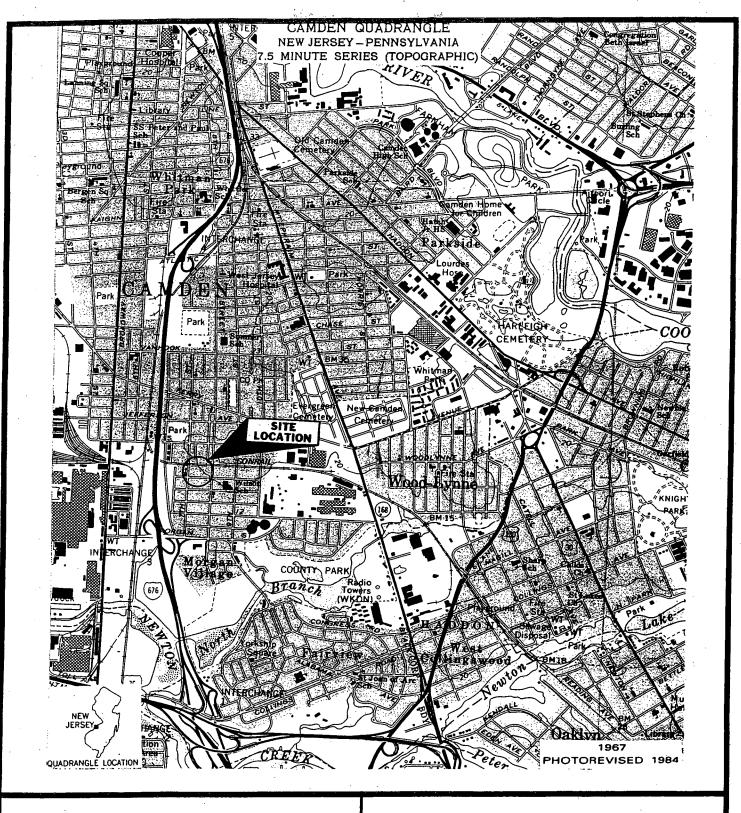


FIGURE 1.0:

REGIONAL SITE LOCATION MAP

Block 604, Lot 1 2204 South 7th Street Camden, Camden County, New Jersey



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1" = 2,000	USGS	8/00
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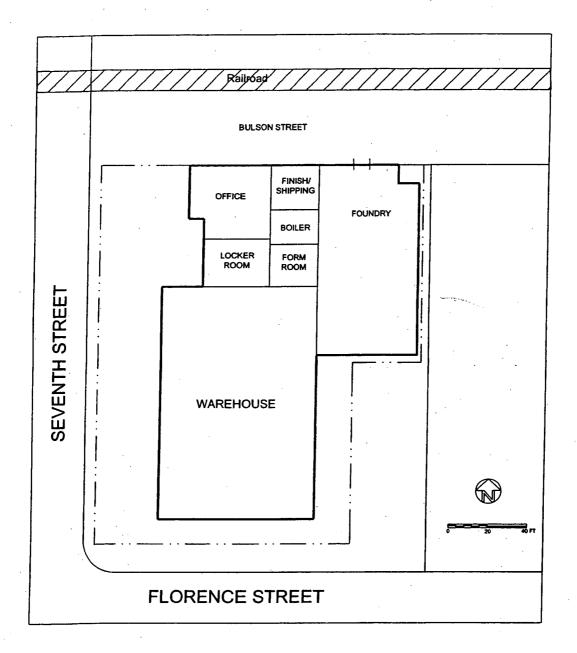


FIGURE 2.0:

SITE PLAN

Block 604, Lot 1 2204 South 7th Street Camden, Camden County, New Jersey



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2.0 SITE INFORMATION (CONTINUED)

2.4 Environmental Setting

Topography

Site Elevation (ft AMSL):

10 to 20 feet

Primary Site Drainage:

To the south/southwest toward Newton

Creek and Delaware River

Major Watershed:

Delaware River

Nearest Surface Water Body(s):

North Branch of Newton Creek 2700

feet to the southwest

Geology

Age:

Cretaceous

Formation Type:

Merchantville Clay

Rock/Sediment Type(s):

Sand/Silt/Clay

Hydrogeology

Aquifer:

Aquitard

Characteristics:

Unconsolidated

Site Specific Flow Direction:

Estimated to be toward east, southeast

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3.0 SITE HISTORY

TTI performed an aerial photograph review of the area of the subject site as a means to document land use changes to the site and to possibly identify any areas of environmental concern. A summary of the aerial photography review is provided in Attachment 9 of the PA Report.

Based on the review of aerial photographs, the subject property consisted of a commercial/industrial building structure from the 1940 aerial photograph to the present.

The historic operations of Barry Bronze, which date back to the 1950s, have been consistent with the most recent operations described in Section 2.3 of this report.

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4.0 TECHNICAL OVERVIEW

The purpose of the site investigation/remedial action was to address the areas identified during the original site investigation and items noted in the May 4, 1999 NJDEP site inspection letter. The following areas are discussed:

- Roof Drains
- Exterior Used Sand Deposition Areas along Bulson Street
- Foundry Compressor Room
- Handling Area by Bay Door Exterior/Bag House
- Aboveground Storage Tank (AST) Piping System
- Interior Dust Abatement
- Furnace Pit
- Interior Foundry Floor
- Site Remediation Program (SRP) Electronic Data Interchange (EDI)
- Baseline Ecological Evaluation (BEE)

Two (2) remediation/cleanup events occurred at the subject site in July and November, 1999. From July 5-13, 1999, RMT personnel conducted the initial remediation/cleanup and included the following activities:

- Empty and removal of 55 gallon drums in foundry
- Remediation of foundry floor
- Remediation of exterior bay door and bag house
- Treatment of contaminated soil within the warehouse
- Disposal of treated soil

The second remediation/cleanup event was conducted by TTI personnel during November 15-19, 1999. The activities conducted by TTI included the following:

- Remediation of furnace pit
- Remediation of foundry sand behind structural support beams
- Cleanup of compressor rooms and form room

Collection of soil samples was conducted by Mr. R. Timothy Popp, Sr. Project Manager for TTI.



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4.0 TECHNICAL OVERVIEW (CONTINUED)

This section provides an overview of the sampling and analytical approach utilized to investigate the areas of concern.

4.1 Sampling Methodology

Soil borings were installed and samples were collected using a properly decontaminated, stainless steel hand auger. Post excavation soil samples were collected with a decontaminated stainless steel core sampling device. All locations were screened using a calibrated Photoionization Detector (HNu) field instrument. Soil samples were transferred into the appropriate sample containers.

Collection of soil samples for possible Volatile Organic analysis included the Methanol Field Preservation Technique. Using dedicated modified medical syringes, TTI obtained a sample from each soil core. The sample weights were recorded and the samples were transferred directly into laboratory supplied containers containing methanol.

All sampling equipment was either dedicated or decontaminated in accordance with the procedure outlined in the NJDEP Field Sampling Procedures Manual, May 1992.

Samples were shipped to the designated laboratory in ice packed coolers under chain-ofcustody documentation.

4.2 Analytical Methodology

All soil samples were submitted to QC Inc. of Southampton, Pennsylvania (New Jersey Certification No. 77166).

The following analyses were utilized in this investigation in accordance with N.J.A.C. 7:26E:

- Total Petroleum Hydrocarbons (TPH) by EPA Method 8015B.
- Priority Pollutant Metals (PP Metals) by EPA Method 7471 and 6010
- Volatile Organics + Library Search (VO+10) by EPA Method 8260
- Hexavalent Chromium by EPA Method 7196A

The analytical results are provided in QC, Inc. Test Report Nos. L570058 and L598738, enclosed as Appendix A. There were no conformance/non-conformance issues reported by the laboratory that would reduce the reliability of the analytical data.

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5.0 FINDINGS

This section provides a description of the activities performed at the subject site to address the areas identified in the NJDEP inspection letter and the original SI Report conducted by TTI.

5.1 Roof Drains

The site inspection report conducted by the NJDEP required that Barry Bronze sample the roof drain leader discharge points for potential contaminants. The subject building has several roof drain leaders which discharge to a subsurface stormwater collection system as well as leaders that discharge to surface soils along Bulson Street. The roof drains that are connected to the stormwater sewer do not require further investigation.

The two (2) roof drains located along Bulson Street discharge to surficial soils. On August 12, 1999, TTI collected two (2) surface soil samples (RD-1 and RD-2) at the discharge point of the roof drains located along Bulson Street. The soil samples were collected at a depth of zero (0) to six (6) inches below grade. Both soil samples were submitted for PP Metals and Hexavalent Chromium analysis. A sample location diagram is enclosed as Figure 3.0 and Table 1.0 below summarizes the field screening/analytical results.

Table 1.0: Analytical Results - Roof Drains					
Parameter (mg/kg)	RD-1	RD-2	NJDEP MSCC		
	0-6"	0-6"			
HNu/PID	ND	ND	NA		
PP Metals					
Silver	ND	ND	110		
Arsenic	14.9	4.07	20		
Beryllium	0.498	0.333	2		
Cadmium	0.953	ND	39		
Chromium	16.4	16.9	20		
Copper	2,720	7,020	600		
Nickel	21.4	57.6	250		
Lead	1,810	3,830	400		
Antimony	2.34	ND	14		
Selenium	ND	ND	63		
Thallium	ND	ND	2		
Zinc	463	223	1,500		
Mercury	ND	ND	14		
Hexavalent Chromium	ND	ND	20		
mg/kg: milligrams per kilogram MSCC: Most Stringent Cleanup Criteria					
ND: None Detected NA: Not Applicable					
Source: QC Test Report No. L570058					

The analytical results for the two (2) samples collected revealed elevated concentrations of Copper and Lead above the NJDEP Most Stringent Soil Cleanup Criteria.

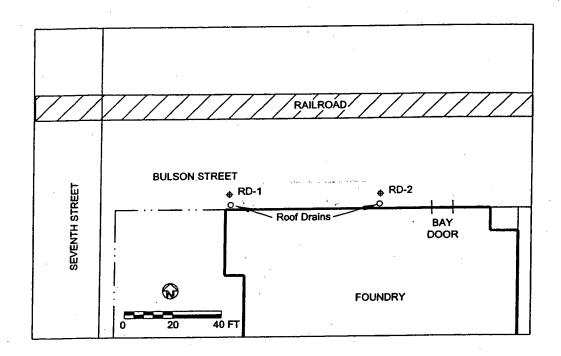


FIGURE 3.0:

SOIL SAMPLE LOCATION DIAGRAM – ROOF DRAINS

TTI

ENVIRONMENTAL, INC.

9 East Stow Road Marlton, New Jersey 08053 856/985-8800 www.ttienv.com Block 604, Lot 1 2204 South 7th Street Camden, Camden County, New Jersey

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99-408	RTP	3.0

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5.0 FINDINGS (CONTINUED)

5.2 Exterior Used Sand Deposition Areas

The PA identified that used foundry sand was utilized for filling in depressions along Bulson Street and the Conrail railroad line. Bulson Street is an unimproved Camden City roadway positioned parallel and adjacent to the railroad line. In order to determine if the area along Bulson Street has been impacted from foundry sand, TTI conducted a surface and subsurface soil sampling program. TTI placed a total of 20 boreholes along the Bulson Street area. A total of 24 soil samples were submitted for Copper and Lead analysis. Copper and Lead were chosen because these compounds are the primary contaminants of concern and will provide a reliable indication of the distribution of the foundry sand. The analytical results are summarized in Table 2.0 and a sample location diagram is included in Figure 4.0.

	al Results – Exterior Used			
Sample ID	Depth Below Grade	Parameter (mg/kg)		
		Copper	Lead	
R-1		8,090	1,660	
R-2		30,200	9,610	
R-3		2,000	.739	
R-4	0 – 6 inches	116,000	27,200	
R-5		1,270	748	
R-6		8,600	5,130	
R-7	·	4,330	1,880	
R-8		21,900	7,830	
R-8	1.5 – 2.0 feet	60.3	25.5	
R-9	0 – 6 inches	5,150	1,720	
R-9	1.5 – 2.0 feet	32.3	16.3	
R-10	0 – 6 inches	16,900	4,920	
R-11	0 = 0 menes	27,000	9,060	
R-11	2.5 – 3.0 feet	73.2	38.3	
R-12		50,500	15,100	
R-13		4,330	1,670	
R-14		40,700	11,600	
R-15	· [66,800	13,200	
R-16	0 – 6 inches	4,550	1,840	
R-17		3,290	1,930	
R-18	Γ	41,900	10,900	
R-19		2,050	1,210	
R-20		31,700	8,920	
NJDEP MS	CC	600	400	
g/kg: milligrams per kilogram ource: QC Test Report No. L59873		ingent Cleanup Crit	eria	

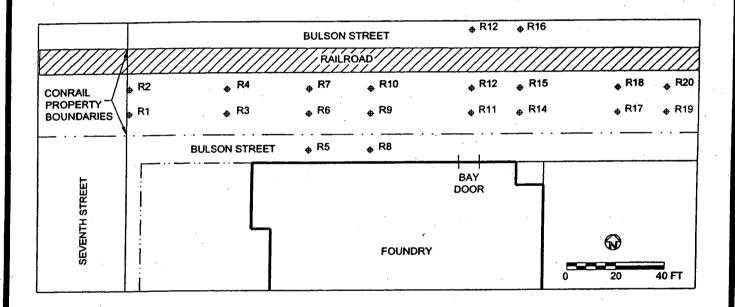


FIGURE 4.0:

SOIL SAMPLE LOCATION DIAGRAM – EXTERIOR USED SAND DEPOSITION AREAS

Block 604, Lot 1 2204 South 7th Street Camden, Camden County, New Jersey



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5.0 FINDINGS (CONTINUED)

5.2 Exterior Used Sand Deposition Areas - Continued

The analytical results revealed impacted surface soils at all sample locations. Samples collected at one and one-half (1.5) to two (2) feet and two and one-half (2.5) to three (3) feet did not reveal any concentrations above MSCC which indicates that the impact is limited to the immediate surface.

5.3 Foundry Compressor Room

During the site inspection conducted by the NJDEP, the foundry compressor room did not have adequate lighting for visual inspection. As requested by the case manager, photographic documentation of the foundry compressor room was conducted and the photographs are enclosed in Appendix B.

Visual inspection by TTI revealed the presence of minor staining in the area of the compressor. The compressor room floor is a solid concrete slab with no visible cracks. Further investigation of this area is recommended since the surface staining did reach the wall/floor seam and may have impacted subsurface soils along the southern, eastern and western wall (see Figure 7.0).

5.4 Baseline Ecological Evaluation

The Baseline Ecological Evaluation (BEE) will be conducted as per the requirements set forth in the NJDEP Technical Requirements for Site Remediation, N.J.A.C. 7:26be 3.11. Currently, resources are being concentrated on the overall goal to find a cost effective method to define and address the larger areas of concern. A BEE will be performed upon further definition of site impact.

5.5 Bay Door Exterior/Bag House

The visual inspection along the exterior of the bay door revealed the presence of similar foundry sand found within the building. On the week of July 5, 1999, RMT personnel conducted a limited soil remediation in the area along the bay door and building. This remediation also included the Bag House area. The remediation areas measured approximately 10 feet by 55 feet and 1 foot in depth.

Following the remediation, TTI collected a total of five (5) post excavation soils samples of which one (1) was a bottom sample (PX-7) and the remaining four (4) were sidewall samples (PX-8 thru PX-11). No post excavation soil samples were collected below the Bag House since a concrete slab was in place. The material located on top of the slab was removed. All excavated material was placed within the warehouse area on the concrete floor and covered with plastic.

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5.0 FINDINGS (CONTINUED)

5.5 Bay Door Exterior/Bag House - Continued

The post excavation soil samples were submitted for Copper, Nickel, Lead, Antimony, Zinc, Hexavalent Chromium and TPH analysis. The analytical results are summarized in Table 3.0 and the sample locations are depicted in Figure 5.0.

Table 3.0: Analytical Results – Bay Door Exterior/Bag House						
Parameter (mg/kg)						NRDCSCC
	PX-7 1.0 – 1.5	PX-8 0.5 – 1.0	PX-9 0.5 – 1.0	PX-10 0.5 - 1.0	PX-11 0.5 – 1.0	
Metals		V	-			
Copper	2,470	50,600	9,320	36.9	8,160	600
Nickel	18.8	475	85.4	9.98	68.4	2,400
Lead	1,040	16,300	3,020	72.2	1,790	600
Antimony	ND	79.5	5.01	ND	10.3	340
Zinc	118	350	187	212	190	1,500
TPH-DRO	17.5	138	48.8	6.55	94.6	10,000
Hexavalent Chromium	ND	ND	NA	NA	NA	20

Mg/kg: milligrams per kilogram

NRDCSCC: Non-Residential Direct Contact Soil Cleanup Criteria

ND: Not Detected NA: Not Analyzed

Source: QC Test Report No. L570058

The analytical results revealed levels of Copper and Lead in excess of the NJDEP MSCC.

5.6 Aboveground Storage Tank Piping System

The NJDEP site inspection letter indicated that a diagram and description of the AST piping system was required to determine if there is any evidence of staining and/or leaks associated with the system. A pipe line diagram is enclosed as Figure 6.0. All piping associated with the AST is located aboveground and no evidence of any leaks was observed. A valve located in the corner of the foundry was utilized to obtain fuel for igniting the furnace. This area was observed to contain visual staining of the wall and sand in this area and was addressed during the furnace pit remediation (see Section 5.9).

5.7 Interior Dust Abatement

Barry Bronze intends to perform a cleanup of the dust immediately following the resolution of the foundry floor sand issue. Foundry sand investigations and corrective actions will generate interior dust conditions; hence, any dust abatement shall be performed following the successful completion of interior remedial activities.

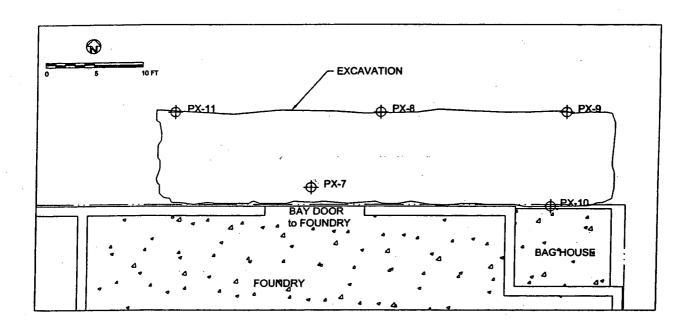


FIGURE 5.0:

SOIL SAMPLE LOCATION DIAGRAM - BAY DOOR EXTERIOR/BAG HOUSE

Block 604, Lot 1 2204 South 7th Street Camden, Camden County, New Jersey



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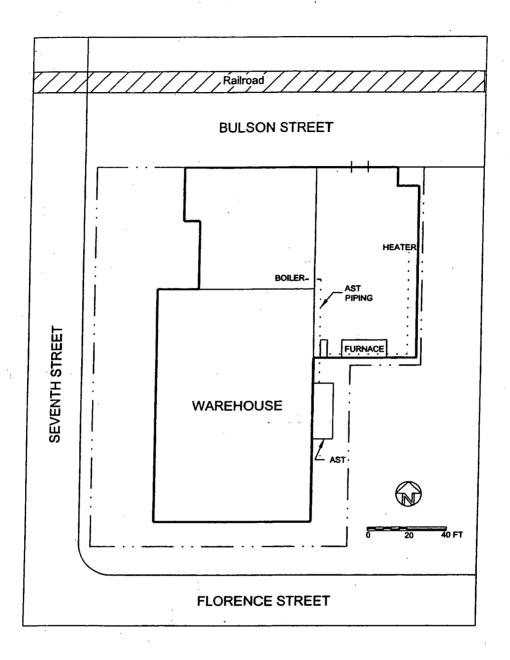


FIGURE 6.0:

ABOVEGROUND STORAGE TANK PIPING SYSTEM DIAGRAM

Block 604, Lot 1
2204 South 7th Street
Camden, Camden County, New Jersey



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5.0 FINDINGS (CONTINUED)

5.8 Site Remediation Program (SRP) Electronic Data Interchange (EDI)

Since the subject site is currently not finished with sample and analytical collection, TTI requests that all EDI submittal be forwarded following the completion of the project. If sample information is submitted and a remedial action is under taken and additional soil samples are collected, the original information would be misleading.

5.9 Furnace Pit

The original site investigation of the furnace pit revealed the presence of Petroleum Hydrocarbon, Lead, Copper, Zinc and Antimony impacted soils. The week of November 15, 1999, TTI personnel conducted a remediation of the impacted soil within the furnace pit. The remediation activities consisted of the removal of three (3) of the four (4) furnace walls and removal of piping/equipment. The fourth wall was left intact since this was a load bearing wall.

All contaminated soil was staged within the warehouse on plastic sheeting and covered with same. Following the remediation activities, a total of eight (8) post excavation soil samples were collected and consisted of two (2) bottom samples (P-1 & P-2) and six (6) sidewall samples (P-3 thru P-8). The sample locations are depicted in Figure 7.0 and the analytical results are summarized below in Table 4.0.

Table 4.0: Analytical Results – Furnace Pit						
Sample ID	Depth Below Grade	PID Results	TPH (mg/kg)			
P-1	65.70	350	17,400			
P-2	6.5 – 7.0	300	17,300			
P-3	10 15	280	8,380			
P-4	4.0 – 4.5	310	16,300			
P-5	·	285	13,400			
P-6	3.5 – 4.0	100	36			
P-7	7	110	5,950			
P-8	4.0 – 4.5	230	14,400			
NJ	DEP Remedial Action Level		10,000			
mg/kg: milligrams per l		•				
Source: QC Test Report	: No. L598738	•				

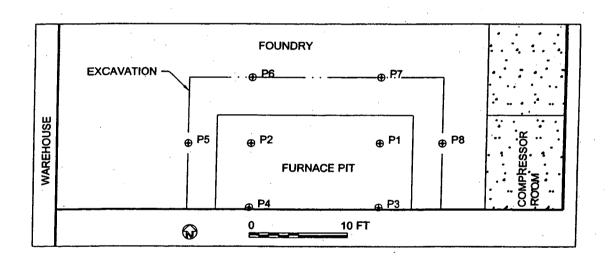


FIGURE 7.0:

SOIL SAMPLE LOCATION DIAGRAM - FURNACE PIT

Block 604, Lot 1 2204 South 7th Street Camden, Camden County, New Jersey



ENVIRONMENTAL, INC.

SCALE	DRAWN BY	DATE		
As Shown	HEZ	8/00		
PROJECT	APP'D BY	DRAWING NO.		
99-408	RTP	7.0		

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5.0 FINDINGS (CONTINUED)

5.9 Furnace Pit - Continued

Table 5.0: Additional Analytical Results – Furnace Pit						
Parameter (mg/kg)	P-1	NJDEP MSCC				
Target VOs						
Acetone	0.484 ^{jb}	1,000				
Total Xylene	1,496.0	410				
Non-Target VOs	161.760 ^J	NA				

mg/kg: milligrams per kilogram

MSCC: Most Stringent Cleanup Criteria

J: Estimated concentrations

B: Compound was detected within the method blank

NA: Not Applicable

Source: QC Test Report No. L598738

The analytical results revealed high concentrations of TPH remaining at the bottom and sidewalls of the excavation. In addition, one (1) of the samples, P-1, was submitted for VO+10 analysis and revealed concentrations of Total Xylene above the Most Stringent Cleanup Criteria.

5.10 Interior Foundry Floor

Remediation of the interior foundry floor was conducted during the week of July 5, 1999. RMT personnel conducted the soil remediation and all contaminated soil was placed within the warehouse for Enviro Blending and later disposal. All of the 55 gallon drums located in the foundry were emptied in the warehouse to be included in the Enviro Blending process. All of the empty 55 gallon drums were crushed and taken to a recycling facility. Following the removal of the drums, RMT removed the foundry sand from on top of the concrete floor portion of the foundry. RMT also excavated approximately one (1) foot of foundry sand from the earthen portion of the foundry. All material was stockpiled in the warehouse for Enviro Blending and later disposal. The Enviro Blend process and disposal of the contaminated soil is discussed in Section 6.0.

Following the remediation of the contaminated soil in the earthen section of the foundry, TTI collected a total of six (6) post excavation soil samples on August 12, 1999. The six (6) post excavation soil samples consisted of two (2) bottom samples (PX-1 and PX-2) and four (4) sidewall samples (PX-3 thru PX-6). The sample locations are located in Figure 8.0 and the analytical results are summarized in Table 6.0.

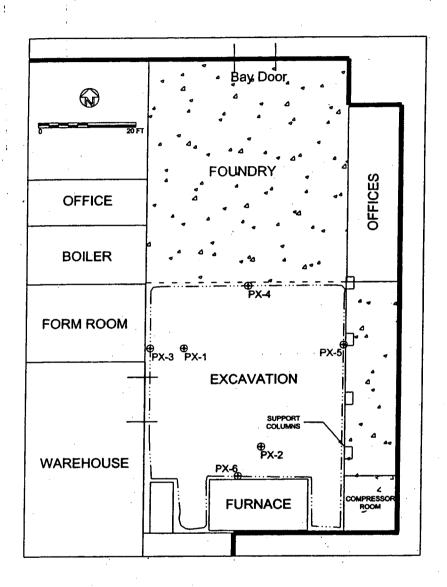


FIGURE 8.0:

SOIL SAMPLE LOCATION DIAGRAM – INTERIOR FOUNDRY FLOOR

Block 604, Lot 1 2204 South 7th Street Camden, Camden County, New Jersey



ENVIRONMENTAL, INC.

SCALE	DRAWN BY	DATE		
As Shown	HEZ	8/00		
PROJECT	APP'D BY	DRAWING NO.		
99-408	RTP	8.0		

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5.0 FINDINGS (CONTINUED)

5.10 Interior Foundry Floor - Continued

Table 6.0: Analytical Results – Interior Foundry Floor							
Parameter	Sample ID / Depth Below Grade (ft)					NRDCSCC	
(mg/kg)	PX-1	PX-2	PX-3	PX-4	PX-5	PX-6*	
Barryan 1912 B	1.0-1.5	1.0-1.5	0.5-1.0	0.5-1.0	0.5-1.0	0.5-1.0	
Metals							
Copper	11,700	1,070	5.75	8.28	23.4	39,900	600
Nickel	98.9	7.92	2.72	4.46	3.43	15.5	2,400
Lead	4,080	385	9.82	7.16	869	12,500	600
Antimony	23.5	2.17	ND	ND	ND	ND	340
Zinc	547	58.3	14.5	15.5	169	203	1,500
TPH-DRO	5.44	72.5	5.38	5.36	9.40	32,700	10,000
Chromium	NA	ND	NA	NA	ND	NA	20
Hexavalent	1		l	ļ			

mg/kg: milligrams per kilogram

*: PX-6 is in relation to the furnace area

NRDCSCC: None-Residential Direct Contact Soil Cleanup Criteria

ND: Not Detected NA: Not Analyzed

Source: QC Test Report No. L570058

The analytical results revealed elevated concentrations of metals in PX-1, PX-2, PX-5 and PX-6. In addition, PX-6 had a high concentration of TPH. This sample was collected along the furnace pit wall and this area was addressed during the soil remediation of the furnace pit (see Section 5.9). The post excavation soil samples which were collected in the area that PX-6 was collected are P-6 and P-7, see Figure 7.0 Furnace Pit.



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6.0 ENVIRO BLEND PROCESS AND SOIL DISPOSAL

The initial remediation of contaminated soil conducted by RMT in July, 1999 was stockpiled within the warehouse section of the subject building. This contaminated soil was impacted by heavy metals only. The amount of this material was estimated at 220 tons.

The May 4, 1999, NJDEP site inspection letter indicated that TTI may implement the EnviroBlend process, but that TTI shall contact the NJDEP Bureau of Resource Recovery and Technical Programs (RRTP). On June 2, 1999, TTI contacted Mr. Paul Mander of the NJDEP-RRTP and explained the proposed process for treatment of the foundry sand. Mr. Mander indicated that no permit was required as the project was being performed as a remedial action.

Based on the estimated amount of contaminated material, RMT added a buffered phosphate material to treat the contaminated soil to a non-hazardous material. Once the buffered phosphate material was mixed with the contaminated soil, a representative soil composite sample was submitted for analysis to determine if the ratio of mixture was adequate to treat the material. Post remediation analysis revealed metals results to be below RCRA TCLP criteria.

On July 13, 1999, a total of 245.69 tons of non-hazardous soil was transported by SLF Trucking of Pilesgrove, New Jersey to Salem County Landfill in Alloway, New Jersey for use as daily landfill cover. The disposal receipts are enclosed in Appendix C.

The second remediation effort of contaminated soil was conducted by TTI in November, 1999. This material consisted of heavy metal and/or petroleum impacted soil. The material that is stockpiled within the building is estimated at 80 tons. The treatment and disposal of this material is pending additional site investigation/remediation activities, particularly the area of the furnace pit.



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7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 Exterior Used Sand Deposition Area, Roof Drains and Bay Door Exterior/Bag House

TTI will provide a Remedial Action Workplan for this area of concern once the meetings with the property owners have taken place.

7.2 Interior Foundry Floor

The remedial action to date has reduced the concentrations of the contaminated soil within the foundry floor, however, concentrations of Copper at 11,700 ppm and Lead at 4,080 ppm remain. The proposed remedial action for the remaining contaminated soils is to treat the remaining soil and to place a cap on top of the treated soil. The material will be treated with the EnviroBlend® chemical technology followed by post treatment soil sample collection and analysis. The technology will be the same used in the remediation and disposal of sands from this area. This treatment will serve to stabilize the material with respect to the potential leachability of metals present within the sand. Upon confirmation of the soil treatment, this area will be covered to eliminate exposure of this material to future occupants. A four (4) to six (6) inch thick concrete floor shall be installed over this area which shall serve as a cap or barrier.

In summary, the EnviroBlend process will serve to immobilize the material with respect to its potential leachability and the concrete floor covering will eliminate direct contact by future building occupants. The building roof and concrete floor also protect this area from wind and rain that could transport the sands to other areas. A deed restriction shall be applied for in accordance with N.J.A.C. 7:26E and N.J.S.A. 58:10B-13. TTI will provide a Remedial Action Workplan for this area of concern along with the Exterior Used Sand Deposition Area.

7.3 Foundry Compressor Room

The foundry and finish room air compressor discharges are proposed to be further investigated via the placement of soil boreholes with soil sample collection and analysis. The investigation shall consists of the placement of two (2) to three (3) probeholes through the concrete floor. One (1) soil sample will be collected from each probehole and submitted for TPH analysis and expanded parameter analysis, if applicable.

7.4 Interior Dust Abatement

Barry Bronze intends to perform an abatement of the dust immediately following the resolution of the foundry floor sand issue.

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7.0 CONCLUSIONS AND RECOMMENDATIONS (CONTINUED)

7.5 Aboveground Storage Tank

The inspection of the AST piping system revealed that the system was intact and no evidence of any leaks was observed. TTI recommends that no further investigation for this area of concern.

7.6 Furnace Pit

TTI performed an initial remediation of the furnace pit that included the removal of three (3) of the four (4) furnace walls. Following the remediation of impacted soils, TTI collected post remediation soil samples that revealed concentrations of TPH to be reduced, but still in excess of the 10,000 mg/kg Remedial Action Criteria. TTI proposes to perform a vertical/horizontal delineation of the petroleum impacted soils via the placement of probeholes along the southern outside wall of the foundry. An attempt will be made to place probeholes within the foundry, but the dry, loosely packed sand present in this area may prevent the placement of these probeholes. Probeholes will be conducted utilizing direct push technology GeoProbe® or equivalent.

APPENDIX A:

QC, Inc. Test Report No. L570058 and L598738